Haaga-Helia
University of Applied Sciences

How to conduct an office renovation

Stefan Sjöström

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Author(s)

Stefan Sjöström

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This is study is about how to conduct an office renovation going through all the necessary phases in the eyes of the Project leader as well as the importance of Human Resources and Change Management. The study was done by relying on theory for the most part but an office renovation project is used as an example though the study does not emphasize on that.

Keywords

Office renovation, Project leading, Change Management, Human Resources.

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1 Introduction

1.1 Problem statement

This study is about office renovation. How it is conducted and what are the phases and the role of HR.

1.2 Research questions

- How is the renovation conducted
- What aspects needs to be taken into consideration from the project managers view
- What aspects needs to be taken into consideration from the HR's view

1.3 Aims and objectives

The main aim of the Thesis is to provide a guide how to conduct an office renovation going through all the phases and from HR point of view what impact change management has on projects.

2 Modern Office and need for change

2.1 Office Environment

2.1.1 Ergonomics

Ergonomics refers to the development of workplace structures, tools, furniture and working methods that suits human features, functions and capabilities. These are considered as a whole, taking into account the individual characteristics of employees. The aim is that the job can be carried out without risk of accident or causing harm. Excessive loads to the musculoskeletal can be caused by repetitive, one-sided work movements, heavy lifting, poor posture and movements. The result is often musculoskeletal excessive stress and diseases. (Työsuojelu, fyysinen-kuormitus, 2016)

Occupational Safety and Health Law § 24 requires the following:
Workplace structures and tools used should be chosen according to work conditions, ergonomically appropriate manner and taking into account the employee's perquisites. Equipment's should be adjustable and arrangeable, as well as the usability of such char-

acteristics that work can be done without causing harm to workers' health or causing excessive load.

In addition, it should be noted that:
Employees should have enough space to change working position and the possibility to use assistive devices to ease work.

The Government's decision on display screen work (1405/1993) shall apply to workstations and work where a significant part of the work is done on visual display. A significant part of the assessment must be made on an individual basis and take into account the time, one-sidedness, periodicity, as well as optical ergonomics aspects of work.

The employer must assess workstations with visual displays and valuate the disadvantages in terms of health and safety of workers as part of the overall assessment of workplace risks. The employer should make the evaluation with co-workers, occupational health and safety staff and occupational health care. Employees own activity and input is important to achieve the best possible result. According to all findings, the employer must draw up a plan to overcome noticed obstacles and execute them.

The workstation must be easily located and lanes clearly separated. There must be enough space so that the position of work station can be changed, sufficient amount of storage space and enough room so that cleaning can be done easily. All unnecessary equipment and belongings should be minimized or removed to avoid accidents. (Työsuojelu, näyttöpäätetyö, 2016).

2.1.2 Working position

Good working position:
The chair backrest supports the lumbar region. Display screen is at a suitable distance, straight in front of the person and below the horizontal gaze. Forearms are supported either by table or chair arms so that shoulders are relaxed and feet are firmly on the floor or on a footrest.

One-sided load can be reduced by changing position, stretching, doing other tasks and organizing tasks so that employee will have to get up from time to time.
(Työsuojelu, näyttöpäätetyö, 2016).

2.1.3 Equipment and furniture

The chair must be a worker-friendly, sturdy and easily adjustable. Height, the height and inclination of the backrest must be adjustable (to provide sufficient support for lumbosacral region), as well as the seat depth.

In addition, the office chair may be the adjustment of the seat surface inclination, which facilitates the use of different positions and back strain. Height and width-adjustable arm-rests provide support for forearms. The chair should be suitably soft.

The screen should be at a suitable distance below the horizontal eye level directly in front of the employee. Screen mechanics must enable rotation and tilting, to achieve correct viewing angle. Neck and shoulder problems might occur if the screen is too high, low or too much to the side.

There must be enough space in front of the keyboard for moving keyboard and supporting hands. Keyboard should be placed directly in front of the employee and the keyboard must have a tilting feature for writing with your wrists straight. The mouse is placed next to the keyboard and on the same level. Forearms should be supported either by the desk or chair armrests to reduce shoulder stress.

Worktop should have a light gray and matte finish and shouldn’t not have sharp edges or corners, in which the worker might hurt themselves. There should be sufficient space on the worktop for necessary equipment, as well as enough space underneath for lowering worktop. There should be enough space for legs to move around. (Työsuojelu, näyt-töpäätetyö, 2016).

2.1.4 Guidance and control

The employer must provide instruction and guidance to employees at the start of the work and when changing workplace and occupation, as well as the acquisition of new equip-ment and information systems. Occupational health care can provide guidance with work-place arrangements, adjustments, take breaks from work and relaxation while working. As a result of training, the employee must actually be able to assess the effectiveness of the basic workstation ergonomics and, if necessary, repair it themselves. The employees will

need to create an active and positive attitude towards the development of their workstation ergonomics. (Työsuojelu, näyttöpäätetyö, 2016).

2.1.5 Eye examination and special eyeglasses

Eye examination should be done when an employee starts performing screen work. In addition, periodic checks must be made every 3 - 5 years by a general rule.

The employer must obtain, if necessary, suitable glasses for display screen work, if the employee has a problem to see the screen even after ergonomic corrections. Special eye glasses are intended for general use and are not suitable for other use. Assessing the need for for special eye glasses should always be done by healthcare. (Työsuojelu, näyttöpäätetyö, 2016).

2.1.6 Acoustics

Office noise doesn't pose a risk of hearing damage, but may impair the work of concentration and comfort. Most disruptive noise usually comes from neighboring workstations or corridors. Other disruptive sounds are phone sounds, the sounds caused by the passage of the corridors, as well as break locations and the occasional sounds from conference rooms.

Work is disrupted if the working environment is noisy when the employee is doing a task that require focus. Sound conditions can significantly reduce the productivity of work in a multifunctional office. Surveys show that effective work time could be wasted up to half an hour a day, if the sound conditions are poor. Improvements of sound conditions will improve labor productivity. (Ketola 2007, 32)

Unwanted speech sounds are the most common disruptive noise in Open-plan offices. Office space planning can significantly reduce the noise nuisance. The best measurement for the acoustic design in offices has proved to be a speech transmission index STI (speech transmission index), the value of which can be 0 ... 1. The lower the index is, the harder it is to decipher speech and the less it interferes. Great voice index is needed e.g. in auditoriums. Multifunctional offices must aim at the lowest possible distinctive character of speech

Table 1. Distinctive speech and speech coverage of the STI values (Ketola 2007, 35).

STI -grade	**Speech distinguish**	**Speech coverage**	**Examples of space**
0,01…0,05	Very weak	Very weak	Between two apartment room
0,05…0,20	Weak	Weak	Between two office room
0,20…0,40	Poor	Weak	Between desks in a well-designed office
0,40…0,60	Moderate	Weak	Between desks in a satisfyingly designed office
0,60…0,75	Good	Poor	Between desks in a poorly designed office
0,75…0,99	Very good	Weak	A well-designed classroom and auditorium

The current Finnish open-plan offices STI values between adjacent workstations have been according to measurements between 0.65 ... 0.90. This means that words can be recognized easily. With good planning, open-plan offices can reach less than 0.50 level. If confidential discussions should be held in the office, STI value should be less than 0.20. This can be achieved if the workstations are separated by a soundproof wall. (Ketola 2007, 35)

Sounds are suppressed more effective, the more there is sound-absorbing material. Curtains, carpets, soft furnishings, people and products absorb sound. However, these are not enough to produce good enough attenuation, in addition, acoustic panels are required on ceiling and wall surfaces. The sound reduction of acoustic panels are illustrated by absorption ratio, the value of which can be 0.00 ... 0.99. If the absorption coefficient is 0.65, the material absorbs 65% of sound wave.

The more protracted the product absorption coefficient is, the more of the product is needed in order to sufficiently dampen sound. Technical installations (e.g. lamps and air-conditioners) that are mounted under the roof surface reduce the efficiency of absorption material, because of the sound is reflected back into the room. Room sound attenuation is usually measured by reverberation time, but studies have shown that this type of measurement is not very suitable for open-plan offices. This will be replaced in the future with measurements that determines how sound weakens by distance. This is equivalents better to people's subjective feelings than reverberation time. (Ketola 2007, 36)

Room acoustic differences between the Office and open floor plan. The illustration shows how the sound level of the speech (dBA) decreases when moving away from a single speaker. (Ketola 2007, 34)

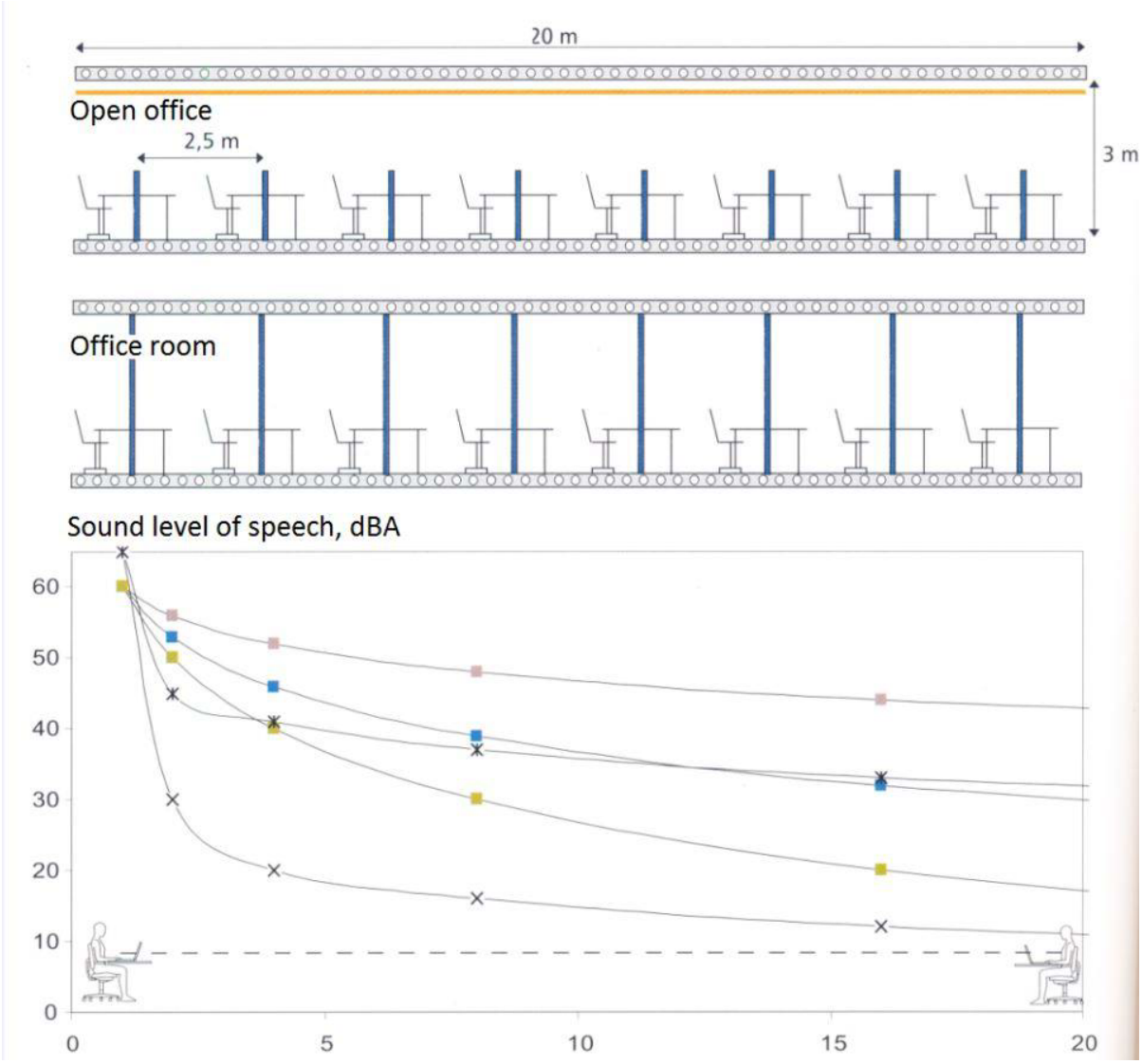

Figure 1. Listeners distance from the speaker in meters.

Designing acoustics requires an expert. The building owner and tenants should know how acoustic problems are born and how to sort out them. In this case, problems can be avoided and for example, when designing a new space, acoustics can be taken into account in due time.

Multifunctional office acoustic problems are usually caused by low background noise level,

not enough damping material and office screen height in new offices tend to be too low.

Good office acoustics:

Background noise level between 40 - 45 dB

- The entire roof surface is covered by sound absorbing material as well as the walls should have plenty of absorption material
- The screens' height is at least 160 cm

Taking into account only one or two factors does not produce good conditions. For example, increasing screen heights is not enough, if the roof is without sound absorbing material.

(Ketola 2007, 37)

Multifunctional acoustic problems may be due to poor planning, insufficient familiarization of job requirements and working methods which may change over time. Open floor office plan is a good solution for routine or team of workers. Rooms are good for ongoing confidential conversations at work or if the work requires a lot of focus. Rooms are not a necessity for work that requires focus if the floor plan offers concentration areas where speaking is not aloud.

Multifunctional office should be designed so that it enables teams to work in groups, so that communication within the team is easy. With right kind of acoustics, teams can work in the same open office without disturbing each other. (Ketola 2007, 38)

2.1.7 Illumination

Good office interior illumination is user-oriented and in line with their duties. A functional and well-designed illumination tend to be more comfortable. Poorly functioning illumination interferes with concentration and can lead to mistakes, and at worst dangerous situations.

Efficient work is possible only if the ergonomics has been done properly. Observing and acknowledging illumination factors can increase the installation costs, but on the other hand can increase productivity through improved work efficiency and reduced absenteeism.

With current technology, it is easy to create individual and adjustable illumination solutions and does not necessarily result in a disproportionate additional costs when purchasing new illumination fixtures. Additional costs can be amortized quickly usually with more en-

ergy efficiency and intelligent illumination control. Through investment of life-cycle thinking, more versatile illumination systems pays for itself. (Työsuojelu, valaistus, 2016).

2.1.8 The requirements for interior illumination

Indoor illumination guideline values are presented in the standard SFS-EN 12464-1. The standard also shows the limitation of glare from light and color rendering of the light sources of set point values. The lighting system must meet the requirements for full installation lifecycle. Typically, the task areas of the recommended illumination intensities are 300 - 750 lux. Specific tasks that need precision requires a larger amount of light. In this case, the implementation of glare-free illumination system is much more difficult. (Työsuojelu, valasitus, 2016).

2.1.9 Light concepts.

- The luminous flux indicates the light emission power capacity to induce sense of light. Unit of luminous flux is the lumen (lm).

- Luminous describes the intensity of the light source or volume. Unit of luminous intensity is the candela (cd).

- Light intensity is the incoming luminous flux (lm) that touches workspace surfaces and the ratio of the surface area. The luminance of the unit is the lux (lx), which is lx = lm / m².

- Luminance or light density describes the amount of light reflected from the surface. In practice, the luminance is mostly associated to the surface light-emitting body, which appear in the "surface brightness" and symbolizes it. Luminance is candela per square meter and 1 cd / m² = 1 lm / (m²sr) = lumen / (m² steradian).

- Reflectance (%) Is defined as the ratio of luminous flux outgoing of the surface and the amount of incoming light flux. Reflectance is of great significance in the way colors look like.

- The color rendering index (Ra index, R) is measured by a light source's ability to reproduce colors in comparison with the reference light source. Color Rendering Index is determined with a warm white fluorescent lamp has the value 50 and the value of the light bulb 100. Also, the light of day index Ra is 100. The larger the Ra index is, the better the color rendering. Fluorescent lamp color rendering index is usually about 80, and mercury vapor lamps of 40 -50.

- Unified Glare Rating (UGR): The interior of the illumination installation causes unwanted glare (or glare, which causes a feeling of discomfort, but does not impair vision) should be determined using the CIE developed by the UGR method. Lighting recommendations provide UGR-value of the maximum, which must not be exceeded. UGR value depends on the amount of light reflected from the background, and each part of the lamps luminance and of the location of the coefficient elements (deviating from the direction of viewing). (Glamox, valaistusteknisiä käsitteitä, 2016).

2.2 Change in working environment

2.2.1 Change Management

What is change management? There are two important concepts that must be recognized, project management and the change itself. They are two critical disciplines that are applied to a variety of organizational changes and the outcome is to improve likelihood of success and return on investment. Change refers to organization and operations, project management to tasks and activities and change management which impacts employees.

The goal of change is to improve the organization. When change is introduced it will impact on one or more organizational operates:

- Processes
- Systems
- Organization structure
- Job roles

The change itself is to move from a current state to a desired future state, where performance is better than it was before the change. Change is needed to react to specific problems or opportunities that an organization is facing.

For change to happen, steps must be taken as it requires hard work and structure within the organization. Project management and change management are two key disciplines required to bring change to life. They are commonly known and accepted definitions which are distinct but intertwined.

Project Management is the application of tools, skills, knowledge and techniques for project activities to meet project requirements. Project management is accomplished throughout the integration and application of project management processes of planning, initiating, executing, controlling, monitoring and closing.

Change management is the tools, process and techniques to manage change within people to achieve the required or wanted business outcome. Change management integrates

the organizational tools that can be utilized to help individuals adopt and realize change through personal transition.

In figure 1 both project management and change management support an organization to move from its current state to the future state throughout a transition state where change management focuses on the people impacted by change and project management focuses on the tasks to achieve the wanted outcome.

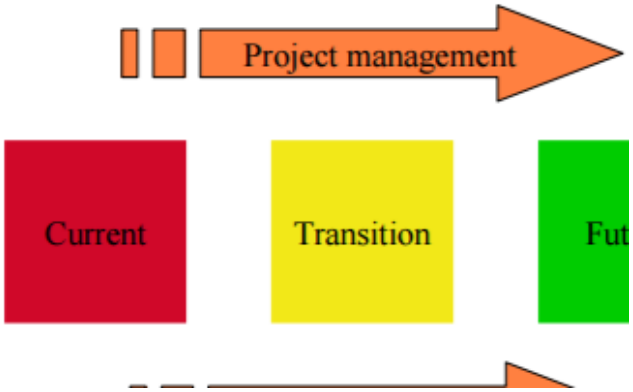

Figure 2 – Process of Change history.

Both tools and structure are essential to realize change successfully on the people and technical side.

Table 2 – Project and change management processes and tools.

Discipline	Process	Tools
Project management	Initiating Planning Executing Monitoring and controlling Closing	Work breakdown structure, budget estimations, resource allocation and schedule Tracking, risk identification and mitigation, reports on performance and compliance Statement of work, project charter and business case
Change management	Planning for change Managing change Reinforcing change	Individual change model Communications Sponsorship

		Coaching Training Resistance Management

So thinking about what each tool is trying to achieve, as the project management outlines specific activities to get from point a to point b whereas change management outlines the required steps needed to help individuals affected by change to adopt it and function accordingly to it. This is shown in the following figure:

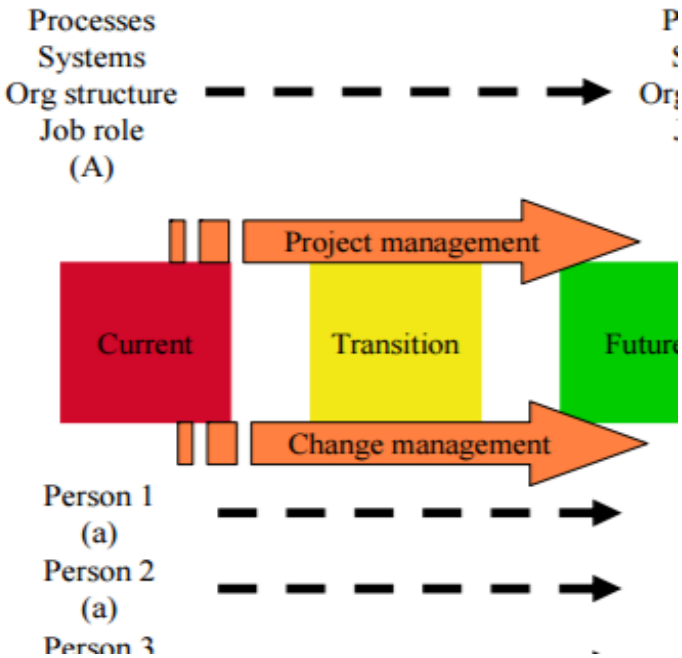

Figure 3. Process systems. (Prosci, Defining change management, 2009).

2.2.2 Changes that affects the environment

There are a number of changes that affects the environment, such as people, services, innovation, technology, buildings and costs. We shape buildings to our needs, but needs change in time and thus does buildings. The interiors serves us, sometimes well and sometimes not so well and changes are needed. (Facilities change management, 2.)

The management is driven by space budgets and space forecasts. Often such forecasts of change are based upon simple statistics what has happened in the past and a pattern of a 5% growth in personnel over the last ten years is assumed to repeat in the next five years.

Such a forecast approach is however fraught with dangers base upon business as usual. One of the most widely recognized change predictor is the sigmoidal curve or known as the s-curve that is an early work by Tushman and Romanelli (1985). The s-curve illustrates a slow growth rate associated with start-up organizations of whose initial growth is tempered by market acceptance and resource constraints. This is followed by a period of rapid (exponential) growth and during that time the organization goes through successive periods of growth. At some point the service or product offering is exhausted and the growth rate reaches maturity which tampers the growth.

Figure 4 describes organizational growth in a form of an s-curve and the way it impacts of facilities and relocation decisions. Organizations typically occupy “incubator” facilities during the early stages of growth. This provides flexibility for experimentation without strains and standards. At this stage, the organization invents its “deep structure” and as the organization becomes too large for its original facility, a pressure for transformative change overwhelm the forces of idleness and thus a “punctuation” occurs in a organizations timeline. (Facilities change management, 4).

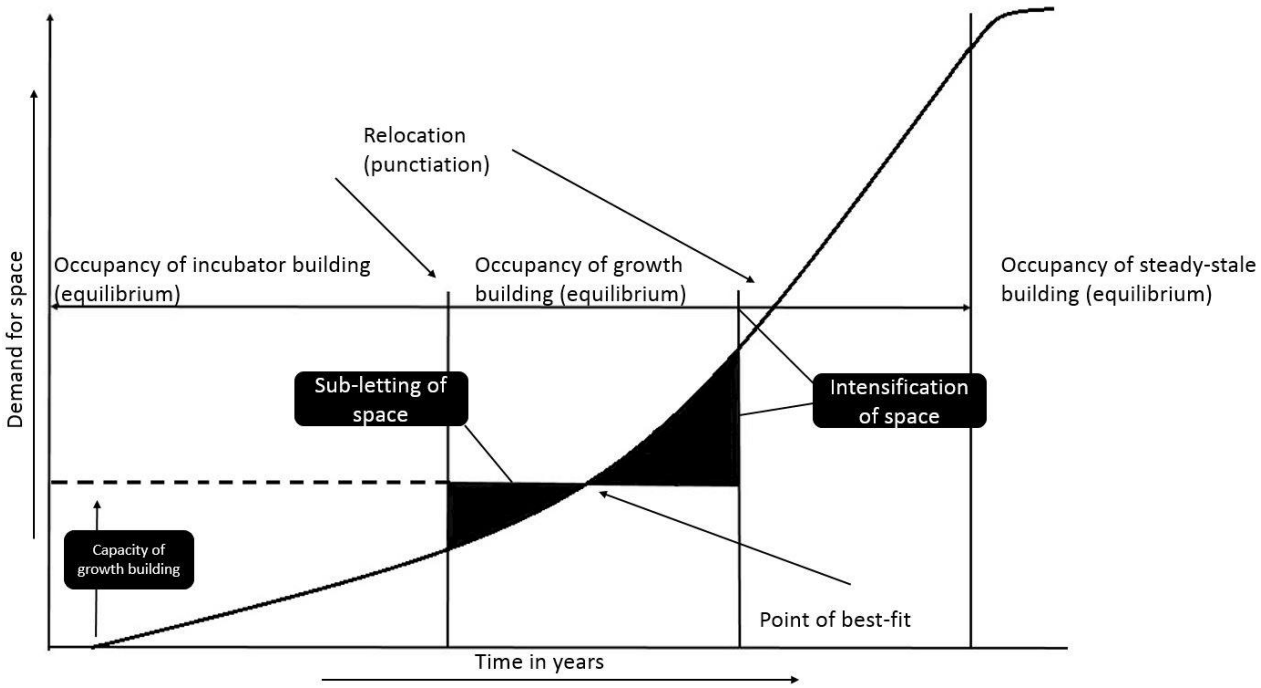

Figure 4 – S-curve. (Facilities change management, 4).

2.2.3 Leading change

Before implementing change, there has to be a need for change. Strong communication and leadership skills are essential and can’t be emphasized enough. There are different approaches for leading change. One of them is Dr. Kotter’s 8 step process model. (kotter-international, 8-steps).

Kotter's 8 Step Process for Leading Change

Step 1. Create Urgency

For change to take place, it helps if most of the company, if not all, really wants change. Developing a sense of urgency around the need of change will help to spark the initial motivation to get things moving.

Step1 is crucial and according to Kotter (Kotter, 1996), 75% of the company's management needs to "buy into" the change. This will require a significant amount of time and energy. It should be made sure that at least the 75% of the company's management is convinced before starting with step 2. Start an open and honest dialogue and bring up the facts, use strong communication and leadership and If needed, request support from stakeholders and customers. (MindTools, Kotter's 8step model, 2017).

Step 2. Form a Powerful Coalition

Second step is to form a powerful coalition of people with a variety of traits. Strong leadership and sound communication skills are essential.

> "Managing change isn't enough – you have to lead it".
> (MindTools, Kotter's 8step model, 2017).

Team work is the key and all coalition members should share the will to continue to build up momentum and urgency around the need for change. Make sure everyone is committed to change, work on team building and remember that the coalition should include people with different thinking styles and traits. (MindTools, Kotter's 8step model, 2017).

Step 3. Create a Vision for Change

When creating a vision of change, there will be various ideas and solutions. The end result should be a clear vision that is easily understood. As the vision is clear to everyone, it is much easier to understand what they are trying to achieve and directives makes more sense. The leaders should be able to clarify in just a few words what it is they "see" as the future of the organization. Create a clear strategy how to achieve it. Make sure that everyone in the coalition can describe the vision of change in just a few minutes and that the described vision is the same no matter who is describing it. Practice the vision speak often, so that it is known from word to word and it is crystal clear. (MindTools, Kotter's 8step model, 2017).

Step 4. Communicate the Vision

It is not enough to communicate the vision only at arranged meeting, it should be communicated as often as possible during the work day at with as many as possible. The vision should be kept fresh in everyone's minds and it should be used to make decisions and to resolve problems. It is not enough to just talk about the vision, behavior and actions that corresponds with the vision are essential so that everyone in the company can see that change is ongoing and real. Communicate the vision often and clearly. Remember that concerns and anxieties should be addresses openly and honestly. The vision should be applied to all aspects of operations, from training to performance reviews and should be tied back to the vision. (MindTools, Kotter's 8step model, 2017).

Step 5. Remove Obstacles

Change affects people in different ways. People have different kind of opinions and as some may be glad and enthusiastic about change, others may feel the opposite. Change is known to cause resistance. Change resistance is not necessarily a bad thing, as there might be good reasons for it, reasons that need to be investigated and if there are sound reasons, these reasons must be brought up openly in the company and a solution must be found. Some people react very negatively to change and react strongly. Change resistance is something that can destroy the future if not dealt with. Whatever is the reason for change reason, it must always be addressed properly. Identify resistance/obstacles/barriers and deal with them. Make sure the coalition has leaders with expertise in leading change/change management and make sure that the organizational structure is in line with the vision of change. (MindTools, Kotter's 8step model, 2017).

Step 6. Create Short-Term Wins

A vision of change without any visible change for a long period of time may lead to lack of faith and motivation. Creating short-term wins is a way to prevent this from happening and a way to motivate personnel. It is a signal that all work towards the vision is happening, that change is taking place and that the company is moving forward towards final goal. Analyze pros and cons before starting a project, start only projects which can take criticism and cannot fail and don't start with projects that are expensive and cannot be justified. (MindTools, Kotter's 8step model, 2017).

Step 7. Build on Change

Short-term wins are necessary but should not be mistaken for long-term change. Kotter argues that change projects might fail because "victory" is declared too early. Long-term

change takes time as real change runs deep. Analyze wins and defeats and improve from them. Continues improvement is essential and a good philosophy for it is Kaizen, a Japanese word for “change better” and has a meaning of “continual improvement”. Work on new ideas and towards change. (MindTools, Kotter’s 8step model, 2017).

Step 8. Anchor the Changes into Corporate Culture

Corporate culture usually determines how and in what way things are done and that is the reason why it is important for the vision to be a part of day-to-day work. The vision, the change must be adopted into the core of the organization.

2.3 Renovation phases

2.3.1 Jumping-off point

Meeting will be held with all relevant persons to agree on outlines and framework before drilling into more details. Prices for special areas, such as server rooms and areas with high security requirement etc. differentiates from normal office spaces. Before the project can start, the project manager must approve the given commission in writing.

2.3.2 Clarification of needs

Clarification of needs should be done with great care and as detailed as possible. It is essential to clarify all needs and requirements that differentiates from normal functions, to ensure that they are taken into account in the construction and refurbishment process.

Clarification of need is the first step. This phase is about estimating if there is a real need for starting a project and to decide in which format the project will be implemented, timed and funded. Cost estimations and timetables will be revised in the following phases of the project. (Kiinteistöliitto & Rakennusteollisuus 2017).

2.3.3 Project Planning (incl. Scheduling).

Project planning is an important phase, which however, may easily be done in an insufficient way. Most of project costs are determined at this stage, so the design should be done professionally and carefully. Decisions about what kind of renovation should be made, must be decided in this phase. In practice, this stage is determined by the content

and scope of repair work, the initial cost and method of implementation. Project planning can be divided into three main phases: project organizing, composing project plan and recording the decision. (Kiinteistöliitto & Rakennusteollisuus 2017, 9.)

Organizing the project is about appointing a project leader. The client chooses a professional builder whose responsibilities include taking care of the construction work and the preparation for decision making. Conventional building tasks includes design, management, proposal implementation, responsibility of contract and contract forms, preparation of general scheduling and managing contractual matters.
Constructing company's responsibilities includes developer's obligations relating to safety at work, and security coordinators tasks. (Kiinteistöliitto & Rakennusteollisuus 2016, 9.)

When organizing phase is over, next step is to gather all basic information about the building, clarifying the current situation and aim for repairs, conduct a preliminary project schedule, investigate financing options and various repair options and methods. At the same time assessing risks and developing a written safety document and to make an alternative solution for repair solutions.

Content of repair plan can be clarified with the help of a project plan, so that the client may request tender for only the design or for both design and implementation. If condition assessment are to be made, suitable repair solutions may be decided on this basis. (Kiinteistöliitto & Rakennusteollisuus 2016, 9.)

Communication is essential and information should be distributed from the very start. When employees know well in advance of plans, they are left with a positive impression. Effective communication is an important part of a project, and it is important to notify employees already in the project planning stage or latest before project is launched. When clarifications are done, it is a good idea to keep a separate info on future plans. The purpose of the event is to inform employees why modifications and repairs needs to be done and what different options there are and what will be the cost. (Kiinteistöliitto & Rakennusteollisuus 2016, 9.)

Studies have shown that unnecessary work and disputes can be resolved with the help of quality informing, that has been planned in good time. There is considerably less friction between all parties when project schedule and phase information is distributed to all parties. (RIL 2009, 96.)

2.3.4 Civil Engineering

Next comes the actual design phase. At this point there must be a safety coordinator for the project. (Kiinteistöliitto & Rakennusteollisuus 2016, 13.)

Competence is emphasized in the designer selection process, ie. Education and experience. Skimping should be avoided in the designer selection process, because a well-planned job is half done. A qualified designer is able to take into account risks and uncertainties in the contract calculation documents related to the project. (Kiinteistöliitto & Rakennusteollisuus 2016, 13.)

Plans can change during the course of the project and should be taken into account when devising agreements. Designers may have to do site visits. These pricing should be agreed well in advance before signing the contract. On a note, all changes of plans should be minimized to make sure to reach deadlines. (Kiinteistöliitto & Rakennusteollisuus 2016, 13.)

Once agreements are signed, it is time to create designs. This phase includes tasks such as:
The organization of meetings and overviews
Monitoring plans
Comparison of solution alternatives
Choosing of Implementation options and getting plan approval from shareholders

The client's representative will ensure that the plans are implemented in accordance with the project program and ensures that the safety coordinator carries out his tasks. (Kiinteistöliitto & Rakennusteollisuus 2016, 13.)

A clerk of works should be chosen at the planning stage, so that he can get familiar with the site and plans well in advance. When dealing with challenging sites, the clerk of works should audit together with designers and property condition inspector, so that challenging details can be resolved. Clerk of works task list shall be annexed to the monitoring plan. (Kiinteistöliitto & Rakennusteollisuus 2016, 14.)

The first meeting is about repair project overview and project scope, writing out project plan and implementation schedule and agreeing on site visits, as well as deciding of possible condition survey's and user queries.
(Kiinteistöliitto & Rakennusteollisuus 2016, 14.)

The project plan is a result of designing work, piece contract, piece program, letter of tender. The piece contract is one of the most important documents of the project, as it defines piece contract form, scope and responsibilities, payments, schedule and costs of a possible delays. (Kiinteistöliitto & Rakennusteollisuus 2016, 14.)

When the plans are ready they need to be accepted by the customer and, if necessary, construction supervision and other authorities such as water supply, district heating and power plant. (RT 18-11004, 4.)

When all plans are done, employees must be informed. An info session is held where the project's basic information such as schedule, scope and reasons for project execution are explained.

2.3.5 Construction preparation phase

At the preparatory phase, the client and the selected contractor makes a decision to initiate the project. The clients selected project leader identifies suitable contractors for tendering stage.

Before making inquiries, necessary tender documents are prepared, which contains:
Work descriptions
Contract program, annexed to safety notes
Contract Limitation Annex
Letter of invitation to tender contract
Tenderers specification document

Purpose of these documents is to define the nature of work and technical implementation methods with sufficient precision, in order to reach the customers desired outcome. (Kangasluoma, 2008, 485.)

The customer approves the list of contractors, letter of invitation, tender form and other tender documents that are proposed by the project leader. An invitation to tender should be clear, uncontroversial request, which always includes the information about pricing and execution of the project. (Kiinteistöliitto & Rakennusteollisuus 2016, 18.)

Once the tender documents have been completed, invitations to tender are sent to the candidates at the same time. Depending on the size of the work, it is good to have at least

three, but not more than ten candidates. There should always be enough computational time, because if the time frame is too tight, candidates might remove themselves from the tendering, resulting in higher prices of contract offer, because the candidate must in urgency calculate higher risk provisions. (Kangasluoma, 2008, 488 - 489.)

Once the deadline for sending tenders has expired, all bids will be opened at the same time and offer comparisons can begin. For comparison, the most common priorities is the contract price, the contractor's competence, delivery capability and resources. If the offer does not comply with the invitation to tender, it may be rejected. Two or three candidates are chosen for contractor contract offer negotiations, where contract related specifics are clarified, so that both the subscriber and the contractor has a unified opinion of tasks and repair works. Pricing should not be discussed at the contract offer negotiations as it would not be in accordance with good practice. (Kangasluoma 2008, 489.)

Subscriber must choose a contractor after the contractor offer negotiations. All contractors should be informed about the decision. A written agreement should be written for every piecework. Contract should be written in two, accompanied by the tender letter of invitation documents, offer protocols for contracts and contract negotiations. (Kangasluoma 2008, 489.)

After negotiations, the subscriber makes decision of undertaking the project. Necessary funding decision should be made, such as raising loan and loan collateral for bank. (Kiinteistöliitto & Rakennusteollisuus 2016, 19.)

Before making conclusion of the contract, the customer has an obligation to obtain reports of contractors in accordance with the contractor's liability act, in order to prevent gray economy. A construction piecework agreement is drafted in accordance with the general terms and YSE 1998, which has been drawn up jointly between the subscriber and the contractor, and which contain mutually acceptable terms and conditions. (Kiinteistöliitto & Rakennusteollisuus 2016, 19.)

The construction phase can begin after the project has been approved and the piecework contract has been signed.

2.3.6 Construction

An initial meeting is held before commencing construction works, which will review the practical issues associated with the contract, inter alia:

The representatives of the various parties
General arrangements at the site, such as warehouses and social facilities
Completion and distribution of plans
Agreeing of informing
Timetables for construction meetings
(Kangasluoma, 2008, 489 - 490.)

If a building permit has been applied and granted by the construction supervision, a site kick-off meeting will be held with the participants including the client or the client's representative, designers or at least the lead designer, responsible contractors, foremen and construction supervision representatives. The client must agree on meeting start date and to convene a meeting prior to the start of construction work. (Kangasluoma 2008, 490.)

It is important to designate a qualified clerk of works for the construction site to ensure that tasks are carried out technically, financially and qualitatively. The clerk of works must record and report progress of the repair work and inspections. (Kiinteistöliitto & Rakennusteollisuus 2016, 24.)

When the construction work has been initiated, construction meetings will be held to monitor that the construction proceeds according to plan and to assure that if any problems would occur, such as working environmental security risks e.g., they will be taken care of. Participants consists of contracting party, clerk of works and possibly the designers. Site meetings must be recorded. (Kiinteistöliitto & Rakennusteollisuus 2016, 23 - 24.)

When constructions are completed, if needed, the building authority is asked for closure review. The closure review indicates whether the construction has been carried out according to the building permit and blueprints. Any deficiencies are recorded and a timetable for the correction is agreed on in written. After closure review is inspected and agreed on. (Kiinteistöliitto & Rakennusteollisuus 2016, 24.)

Constructed premises may not be used before it has been successfully audited and accepted. If necessary, a part of the building can be taken into use if it has passed inspection. (Kiinteistöliitto & Rakennusteollisuus 2016, 25.)

2.3.7 Warranty Period

Monitoring warranty period
The warranty period starts when the building or premises has been received. Project leader keeps (2 years YSE1998) a record of detected and reported work defects, design

faults, omissions and operational experience. The property manager and maintenance personnel must report all serious defects and omissions to the project manager.

Warranty period deliveries and control
Urgent work:
Project leader requires contractor to repair defects that needs to be handled urgently, or uses a subcontractor to perform the repairs at the expense of the contractor

The warranty period and inspection:
According YSE 1998 The warranty period is 24 months of receiving the building or premises, unless otherwise agreed. If needed, a mid-term review is held in the middle of warranty period, identified defects and deficiencies must be corrected at the agreed time.

Warranty and mid-term inspections are recorded, included with list of defects and deficiencies.
When the Warranty inspection has been carried out and the defects and deficiencies have been corrected, liability of the contractor ends with the exception of gross negligence (YSE1998)

The contractor is responsible up to ten years from proven mistakes caused by gross negligence that could not have been detected by inspection or during the warranty period.

2.3.8 Repair works

The project leader is responsible for overseeing repair works. Deadline for repair works will be agreed on at the acceptance inspection. A list with all deficiencies must be recorded. Project leader is responsible for making sure that the contractor has corrected the remaining errors and deficiencies within the given time.

2.3.9 Financial final report

If needed, the Project leader will organize a final financial report meeting at the acceptance inspection or on separately agreed time. At the meeting all payment issues between the contracting parties are finalized. (Kiinteistöliitto & Rakennusteollisuus 2016, 27.)

2.3.10 Feedback session

It is advisable to have a feedback session. Project leader brings together the client, designers, contractors and users' feedback. Feedback session is held after final financial report meeting and repair works, so that everyone’s experiences can be used in similar projects in the future.

2.3.11 Final report

If needed, the Project leader conducts a final report concerning the financial report and feedbacks.

3 Data collection approach

3.1 Data collection process

3.1.1 Company X background

Company X is an IT company that operates in Europe. At the time the Survey and project was done, the company had between 9000-12000 employees.

Survey – Ways of working

Company X conducted a survey to help them understand what kind of office environment would support their daily work. They started out by examining job roles and creating profiles that would describe employee day-to-day activities. This was done by the HR department with the support of Facility Management. After profile creation, the next step was to create areas that would support different ways of working at the office and with help of this data, to create the office layout with the help of professionals. Survey was sent to every employee working in the country and cities that the project would affect., approximately to 2000 employee of which 852 answered and 845 was used as seven 7 participant’s answers were invalid. Survey was done using Webpropol. The questions and answers can be found in the appendix section.

Ways of Working – Profiles

Company X created the following profiles.

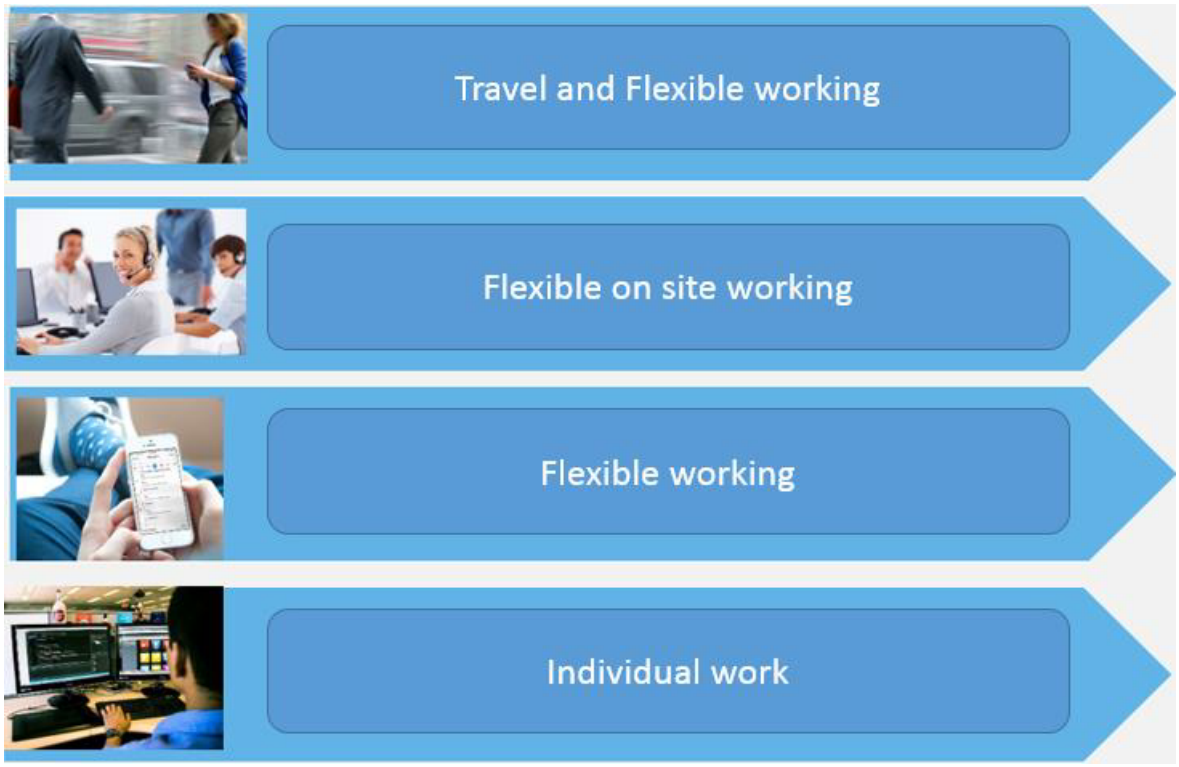

Figure 5. Ways of Working.

Travel and flexible working: Profile for employees who travel quite a lot and are not that often at the office. Rarely when they are in the office, they are in meetings, usually with customers or at customer premises.

Flexible on site working: Profile for employees that are constantly working with team members and needs to easily locate them. Most of times F2F- sessions where ad hoc meeting rooms play a big role.

Anywhere, anytime: Profile for employees that likes to get outside the office when needed and being a part of peer communities and getting involved is what drives them and their thinking.

Individual work: Profile for employees to whom ergonomics is essential. They usually need a big screen, or preferably two screens. They tend to have a lot of material that they are in constant need of and require more space. They appreciate quietness and they work full time at their desk.

Next step for company X was to create areas that would support every-day work. This areas are:
Concentration

Hanging out
Communication
Collaboration

The areas above included the following spaces:
Open desk area
Collaboration space
Project space area
Inno space (innovative space)
Showroom
Phone booth
External meeting rooms
Internal meeting rooms
Ad hoc rooms
Café area in the office
Cafeteria
Gym

3.2 **Data analysis process**

Data analysis was conducted by the HR department. Questions, answers and results were given to me in a excel file. How the data was analyzed and validated, is unsure and the results in this theses relies on the belief that the company's HR department has taken every procedure so that the results are. I have used the results as they are and have not tampered with them in any way.

4 Key results and findings

4.1 **The key findings**

As the chart shows, Flexible on site working got 63% which the majority clearly chose as their way of working. Individual work 16%, Flexible working 12% and Travel and flexible working 8%.

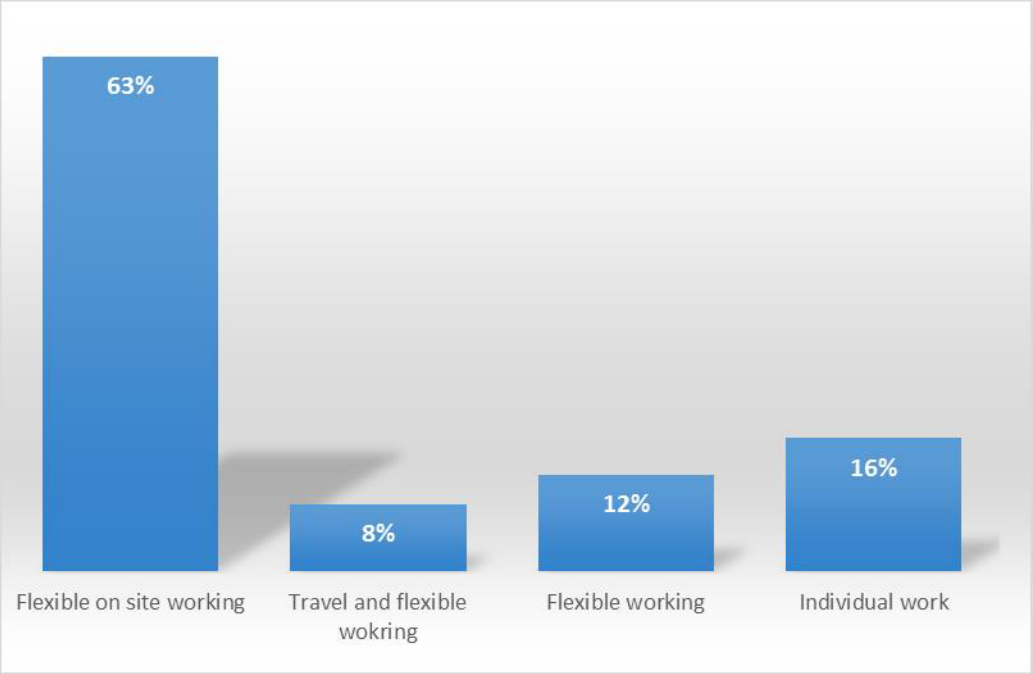

Figure 6. Ways of working.

Concentration area got 55% “usage” percentage, Collaboration 24%, Communication 20% and Hanging out 1,5%.

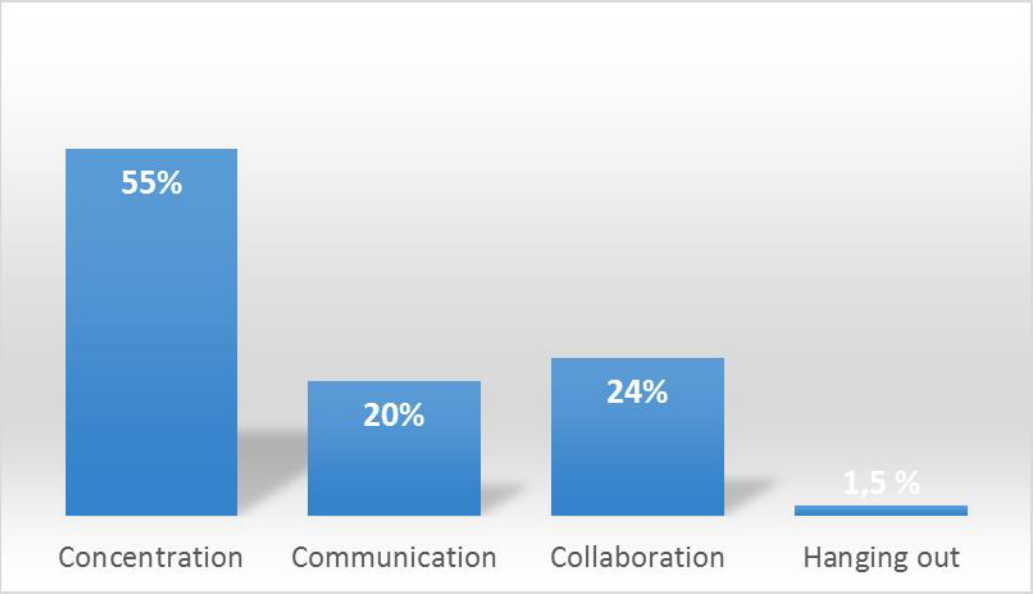

Figure 7. Office areas.

4.2 Discussion of the findings and need for office change

The results indicated that the old office space did not support the company’s every-day work. The work itself has changed over the years and now there was a clear need for new office space. The new office space would not only support the work but have a financial effect as well, because the old offices were designed so that every employee had a fixed

seat and now it was clear that the new office would not need to. As a result, three campus would be closed and the new one would inhabit all the employees.

5 Renovation Project

The project begun by appointing key roles and responsibilities. Facility Management was responsible of the physical outcome as HR of the change management. Project leader were appointed and the steering group as well.

The project leader created a Process Diagram for the project.

Process Diagram

The process diagram is presented from the perspective of the project where the setter has handed over the project in writing including necessary information, and the recipient has accepted it in writing as received.

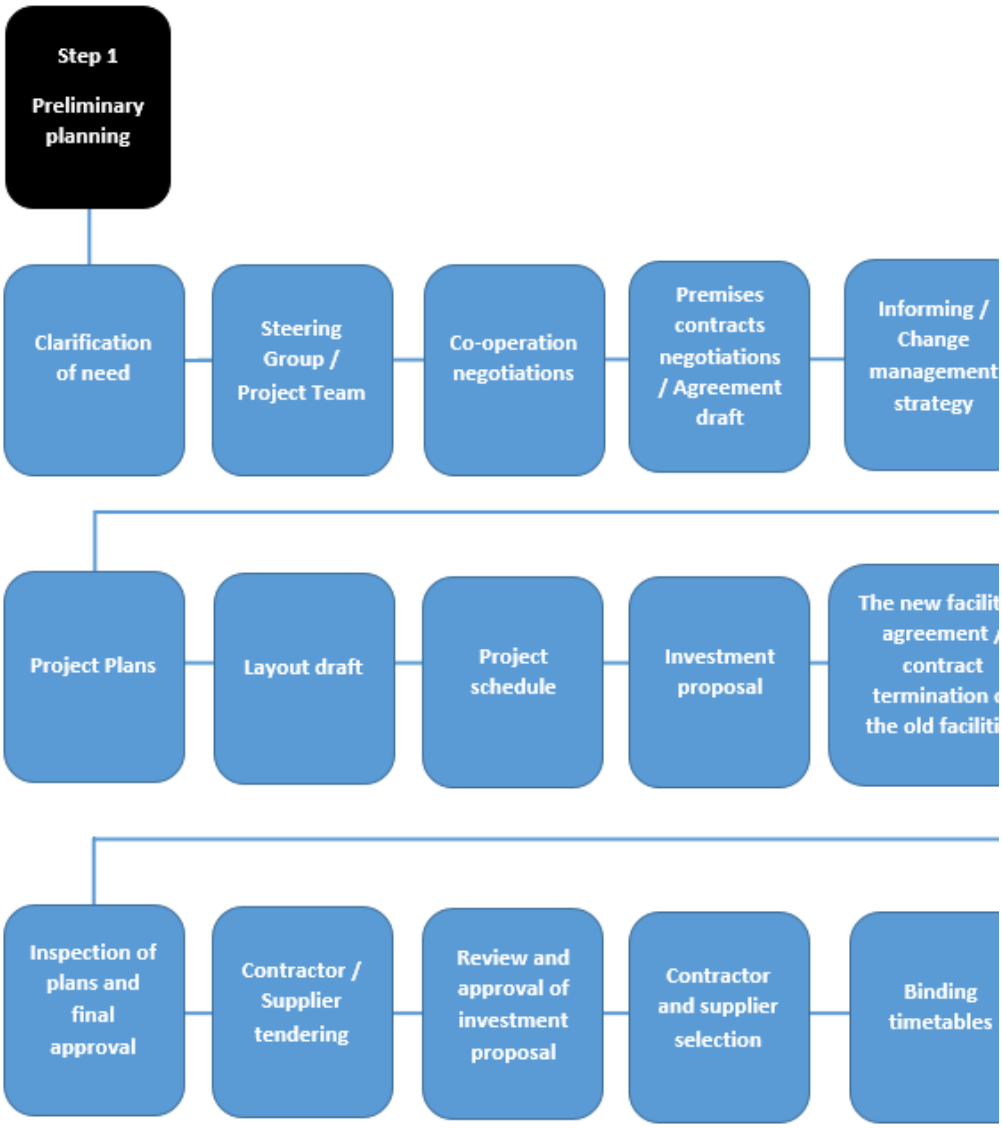

Figure 8. Office space conversion project – Process Diagram

Next steps were conducted:

Need assessment

Examine the offices console opportunities for achieving good and efficient operation. A lot is invested into this step, the goal is to have a modern office building which is functional and space efficient, without sacrificing comfort or safety.

Steering group / Project team

At the beginning of the project is a good idea to discuss the need for a steering group, which consist of director-level decision-makers, this is really necessary, especially in larger projects which are a big risk economically, financially or in terms of business. The project team consists of representatives from the project promoter, as well as representatives designated by the user. It is very important that the project group stays small enough to gain the advantages of fast response and “agility”.

Co-operation negotiations

Before starting with co-operation negotiations, this should be discussed with the HR department to clarify the need of HR support, which depends of the magnitude of the change.

Contract negotiations / new premises and termination of old

The negotiations should commence as soon as the needs assessment has been completed. Before the final plans, there must be a draft of new facilities agreement. In addition there should be a plan or an agreement of old facilities termination and period of notice must be taken into consideration.

Project Planning

Investigate the needs of future facilities, these include; staffing levels, closed departments, service desk, 24/7 control rooms and other special attributes of premises to comply with functions. Business grow-up should be taken into consideration as well, these estimates / facts determine what kind of office space will be built. If these factors are not taken into account at this stage, it poses a risk of big expenses in the future.

Preliminary plan layout

Blueprints are drawn according to gathered information such as needs of users that have been clarified up in advance. This taken into account, the aim should be to create facilities that follow with the brand and shares congruence with the corporations other facilities.

Previous project experiences and feedback is also good to note to avoid making the same mistakes again, and operation model may have changed which may result in a completely different environment.

Provisional timetable for the project

A timetable for the project is a necessity. This will provide a framework for post adjustments. There's a number of elements that define the start and completion of the project, usually, these elements are the period of notice for the old facilities and estimation of completing new the new one. In some cases, it may set a framework for business future agreement, in this case assessment is needed to clarify whether the construction of the facility in relation to the size of the contract makes sense.

A timetable is good to build with a program designed for this purposes, example below. (Microsoft Project 2010).

	Task Mode	Task Name	Duration	Start	Finish
1		**Deadline**	**201 days**	**Mon 1.7.13**	**Mon 7.4.14**
2		Site Relocation	155 days	Tue 3.9.13	Mon 7.4.14
3		**Co-operation negotiations**	**30 days**	**Mon 22.7.13**	**Fri 30.8.13**
4		Closing co-operation negotiations	30 days	Mon 22.7.13	Fri 30.8.13
5		Determing final location	13 days	Wed 14.8.13	Fri 30.8.13
6		**Staff bulleting / Change Management**	**60 days**	**Thu 29.8.13**	**Wed 20.11.13**
7		Staff bulleting 1	2 days	Thu 29.8.13	Fri 30.8.13
8		Staff bulleting 2	2 days	Fri 11.10.13	Mon 14.10.13
9		Staff bulleting 3	2 days	Tue 19.11.13	Wed 20.11.13
10		**Agreements / Contracts**	**2 days**	**Mon 2.9.13**	**Tue 3.9.13**
11		Termination of old facilities	1 day	Mon 2.9.13	Mon 2.9.13
12		New facilities agreement draft	1 day	Mon 2.9.13	Mon 2.9.13
13		Renovation starting date agreement	1 day	Mon 2.9.13	Mon 2.9.13
14		Termination of old facility services	1 day	Tue 3.9.13	Tue 3.9.13
15		Contract / Services for new facilities	1 day	Tue 3.9.13	Tue 3.9.13
16		**Plans for new office space**	**17 days**	**Thu 1.8.13**	**Fri 23.8.13**
17		Layout / Designs	5 days	Thu 1.8.13	Wed 7.8.13
18		Resolving adequacy of technics in new facilities	4 days	Fri 2.8.13	Wed 7.8.13
19		Final approval of plans	2 days	Thu 8.8.13	Fri 9.8.13
20		Drawing blueprints	5 days	Mon 12.8.13	Fri 16.8.13
21		**Furniture / Fitments**	**82 days**	**Mon 19.8.13**	**Tue 10.12.13**
22		Furniture requisitions	4 days	Mon 19.8.13	Thu 22.8.13
23		Deliveries phase1 (3rd floor)	30 days	Thu 12.9.13	Wed 23.10.13
24		Deliveries phase2 (2rd floor)	30 days	Fri 4.10.13	Thu 14.11.13
25		Deliveries phase3 (1rd floor)	30 days	Thu 24.10.13	Wed 4.12.13
26		Removal and installation of existing furniture phase1	3 days	Wed 6.11.13	Fri 8.11.13

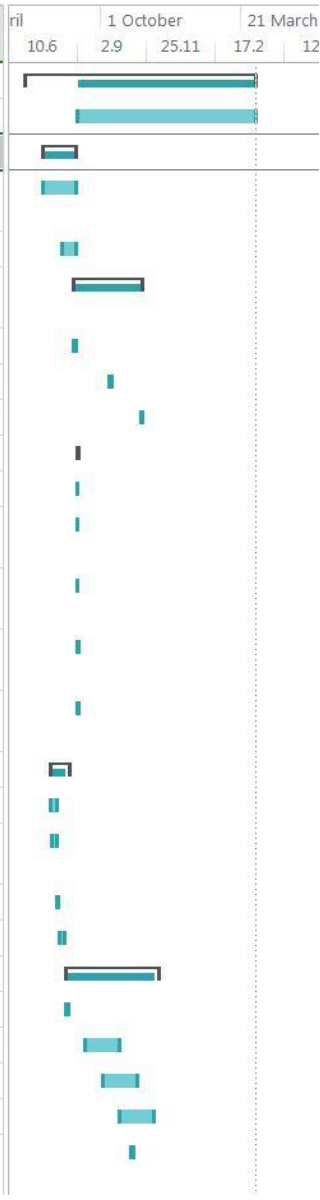

Figure 9. Office project timetable.

Investment proposal

After the preliminary designs and a preliminary schedule, we can make an initial proposal for the amount of the estimated investment. At this point, the size of investment is still unclear but enough for illustrative purposes. Investment proposal is usually done with two or three versions. After comparing the versions, it is easy to decide if existing elements can be reused or if it is necessary to acquire new ones. Comparing alternative properties and renovation of their cost structures can be done by using the same method.

Plan approval for representatives

Reviewing preliminary plan and final checks. All project elements are carefully reviewed step by step in order to avoid unpleasant surprises. Floorplans will be created after approval.

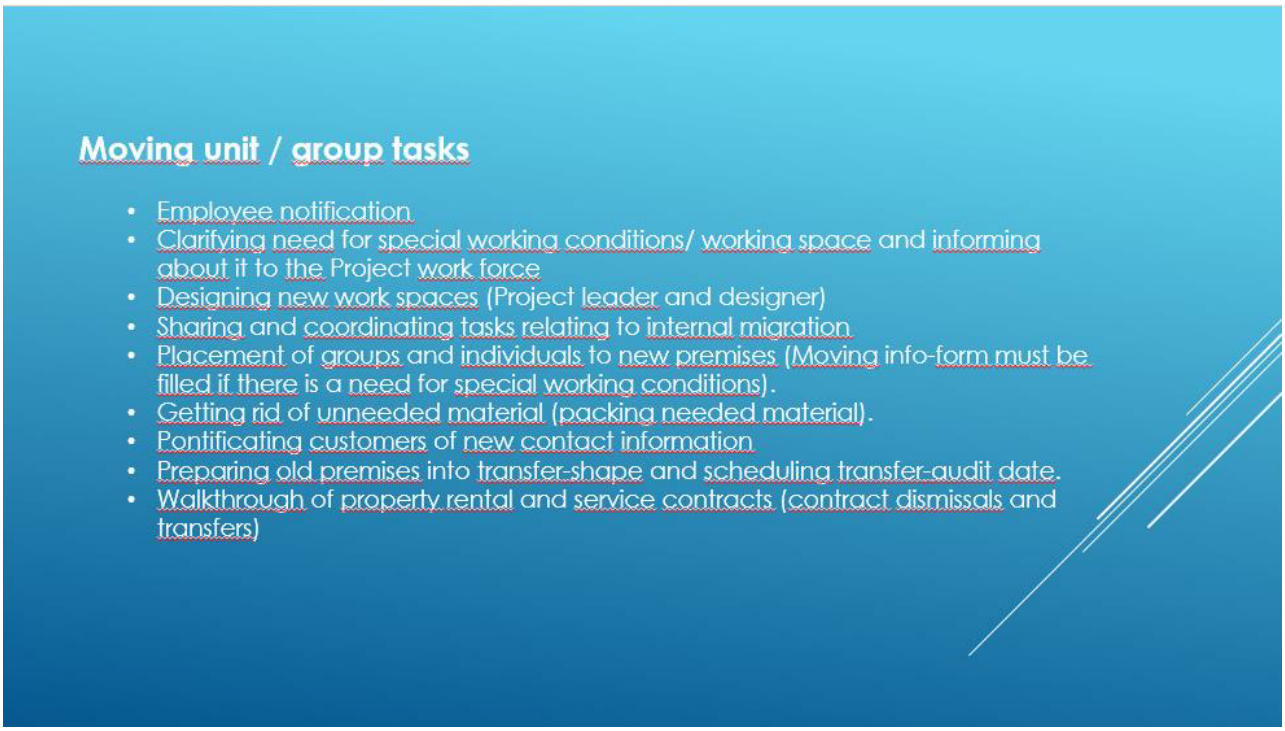

Figure 10. Project proposal for project team.

Figure 11. Project proposal for project team.

Figure 12. Project proposal for project team.

Corrective measures for layout plans and new pictures with structural changes
After the completion of the final drawings, last adjustments are made with the project team to ensure that everything is taken into account and that the drawings corresponds to the desired level.

At this point, it is particularly important to know whether there is a need for protected areas and within what timeframe. Safety requirement foresight must be assessed carefully. Costs afterwards can be 10-100 thousand euros.

Material suppliers and contractors choices
Requesting tender from selected contractors. At this point it is important to bear in mind furniture, accessory etc. delivery times, that define the schedule. E.g. If mat deliveries re delayed, furniture installations will be delayed as well. Another option is to use the real estate owner's contractors to transfer the responsibility of cost and control to the property owner.

Final schedule
Final schedule should be structured in co-operation with the staff and contractors. At this point, the schedule must include detailed tasks and steps of which all should be aware of. After the project's timetable has been drawn up, a meeting takes place once again with all parties for approval, thus avoiding any disagreement of tasks, deadlines and completion.

Renovation/Refurbishment
The aim is to make a space-efficient and comfortable multifunctional office. The aim is to give up 1000-1500m2 leased area without lowering staff satisfaction. This will be done by raising space-efficiency. In this transformation, a new untitled work station layout is piloted, the change will be large and require a lot of participation from change management in order to achieve a good result

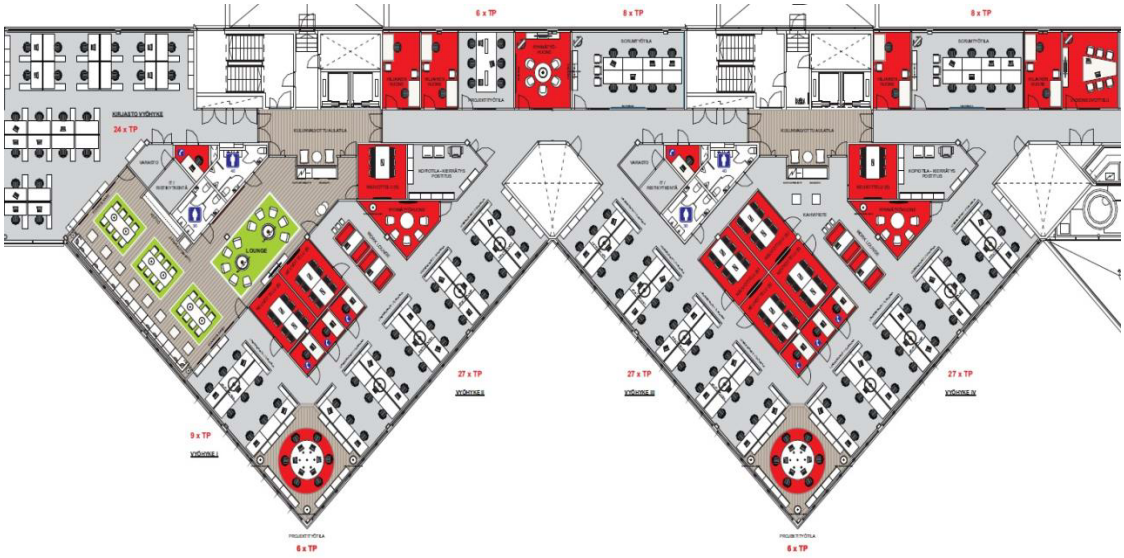

Figure 13. Office layout.

Moving

Refurbishment has sometimes negative impacts as it is a transition phase and might cause unwanted steps such as evasive removals and other temporary solutions before moving into the “final location”. It is of paramount importance to choose responsible persons inside business units and facility management. All information and changes will go through these persons.

Relocation Plan must be made at an early stage before the relocation. It is important for the moving company to get to know the facilities and specific requirements in good time before the relocation.

Security requirements should also be taken carefully into account. There might be a need for a guard to protect the site from potential business / security risks.

Below is an illustration of relocation phase 1.

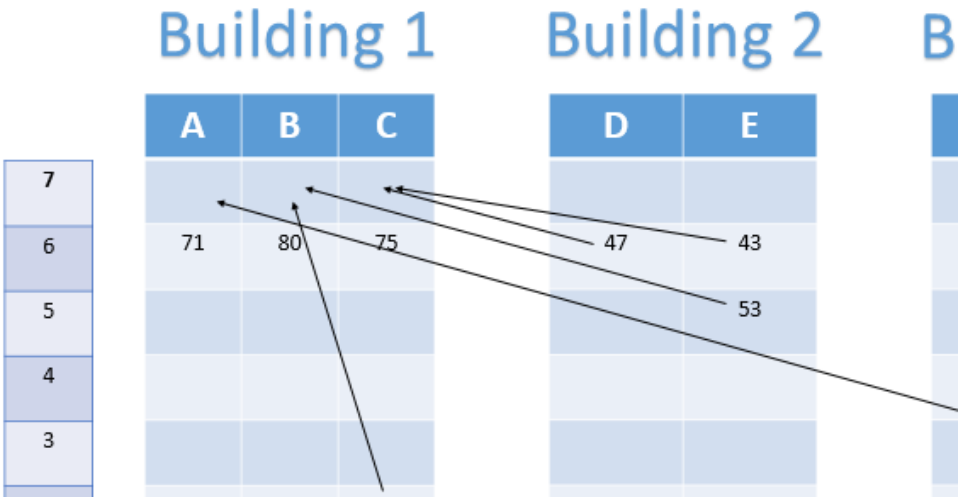

Figure 14. Move plan.

Implementation

The right amount of ICT and maintenance resources must be allocated at the implementation phase, as fault conditions are usually inevitable and these can never be avoided by 100%. These measures will actually greatly influence the attitudes and the acceptance of the office spaces.

Feedback session

When the project ends, there should always be held a final meeting. This is usually left undone or done passably. This section is one of the most important tools for self-improvement and process.

It is important to write down all of the feedback and also to analyze it with thought to be able to avoid same mistakes in the following projects.

6 Conclusions and reflections

6.1 Conclusions on the office renovation project

The office renovation project went according to plans. Facilities management and Human Resources worked together as a team and performed outstanding communication and leadership skills.

6.2 Reflections on the thesis process

Time management was handled poorly and because of this the deadline came as a surprise which lead to unwanted results.

References

RIL 252-1-2009 Asuinkerrostalojen linjasaneeraus (2009) Suomen Rakennusinsinöörien Liitto RIL ry.

RT 18–11004 Asuntoyhtiön korjaushankkeen kulku (2010). RT-kortisto. Rakennustieto Oy

Kangasluoma, Maria (2008) Isännöitsijän käsikirja. Helsinki. Kiinteistöalan Kustannus Oy.

Ketola, Ritva (2007) Toimiva toimisto. Työterveyslaitos. Tammer-Paino Oy. Tampere

Kiinteistöliitto & Rakennusteollisuus (2012) Taitava tilaaja - pätevä palveluntuottaja.

Finlex. URL: http://www.finlex.fi/fi/laki/alkup/2002/20020738. Accessed 14.9.2017

Taitava tilaaja. URL:http://issuu.com/mediat/docs/taitava_tilaaja. Accessed 14.10.2017

Rakennuksen viralliset sopimusehdot. URL: http://www.virrat.fi/files/5714/9700/5013/06_Rakennusurakan_yleiset_sopimusehdot_YSE_1998_12.1.2017_201701121405.pdf. Accessed 2016

Työsuojeluhallinto. URL: http://www.tyosuojelu.fi Accessed 29.11.2017

Työterveyslaitos.URL: http://www.ttl.fi/fi/tyoymparisto/. Accessed 29.11.2017

Työsuojelu. URL: http://www.tyosuojelu.fi/tyoolot/fyysinen-kuormitus. Accessed 29.11.2017

Työsuojelu. URL: http://www.tyosuojelu.fi/tyoolot/fyysinen-kuormitus/nayttopaatetyo. Accessed 29.11.2017

Työsuojelu. URL: http://www.tyosuojelu.fi/tyoolot/fysikaaliset-tekijat/valaistus. Accessed 29.11.2017

Työsuojelu. URL: http://www.tyosuojelu.fi/. Accessed 29.11.2017

Glamox. URL: http://glamox.com/fi/valaistusteknisi-ksitteit. Accessed 29.11.2017

Prosci-defining-change-management 2009 pdf. URL: http://www.change-management.com/Prosci-Defining-Change-Management-2009.pdf. Accessed 27.3.2017.

The 8-step process for leading change. URL: https://www.kotterinternational.com/8-steps-process-for-leading-change/. Accessed 16.10.20417.

Kotter's 8-step change model. URL:https://www.mindtools.com/pages/article/newPPM_82.htm. Accessed 16.10.2017.

Appendices

Tables.

Figures.

Survey results – Travel and flexible working

Current role	Number	Percentage
Customer manager	12	17 %
Project manager	9	13 %
Manager	7	10 %
Solution consultant	7	10 %
Test engineer	5	7 %
Total	70	

Preferred area		
Areas for concentration	24	32 %
Areas for communication	19	25 %
Areas for collaboration	32	42 %
Areas for hanging out	1	1 %
	76	

Row Labels	Count of Open desk Area	
1. Daily	31	44 %
2. Few times per week	13	19 %

3. 1-2 times per week	10	14 %
Grand Total	54	77 %

Row Labels	Count of Cafeteria	
1. Daily	23	33 %
2. Few times per week	11	16 %
3. 1-2 times per week	16	23 %
Grand Total	50	71 %

Row Labels	Count of Collaboration	
1. Daily	13	19 %
2. Few times per week	21	30 %
3. 1-2 times per week	12	17 %
Grand Total	46	66 %

Row Labels	Count of Project space	
1. Daily	9	13 %
2. Few times per week	13	19 %
3. 1-2 times per week	12	17 %
Grand Total	34	49 %

Row Labels	Count of Phone booth	
1. Daily	22	31 %
2. Few times per week	23	33 %
3. 1-2 times per week	12	17 %
Grand Total	57	81 %

Row Labels	Count of Innospace	
1. Daily	5	7 %
2. Few times per week	13	19 %
3. 1-2 times per week	17	24 %
Grand Total	35	50 %

Row Labels	Count of Showroom	
1. Daily	2	3 %
2. Few times per week	2	3 %
3. 1-2 times per week	2	3 %
Grand Total	6	9 %

Row Labels	Count of External meetong rooms	
1. Daily	3	4 %
2. Few times per week	13	19 %
3. 1-2 times per week	16	23 %
Grand Total	32	46 %

Row Labels	Count of Internal meeting rooms	
1. Daily	17	24 %
2. Few times per week	24	34 %
3. 1-2 times per week	12	17 %
Grand Total	53	76 %

Row Labels	Count of Ad hoc

1. Daily	17	24 %
2. Few times per week	20	29 %
3. 1-2 times per week	13	19 %
Grand Total	50	71 %

Row Labels	Count of Gym	
1. Daily	2	3 %
2. Few times per week	11	16 %
3. 1-2 times per week	21	30 %
Grand Total	34	49 %

Row Labels	Count of Cafe area on the office	
1. Daily	27	39 %
2. Few times per week	14	20 %
3. 1-2 times per week	12	17 %
Grand Total	53	76 %

Survey results – Flexible working

Current role	Number	Percentage
Project Manager	13	13 %
Sales Manager	11	11 %
Manager	10	10 %
Solution consultant	8	8 %
SW Architect	5	5 %
Total	101	

Preferred area		
Areas for concentration	26	23 %
Areas for communication	34	30 %
Areas for collaboration	50	43 %
Areas for hanging out	5	4 %
	115	

Row Labels	Count of Open desk Area	
1. Daily	65	64 %
2. Few times per week	23	23 %
3. 1-2 times per week	5	5 %
Grand Total	93	92 %

Row Labels	Count of Cafeteria	
1. Daily	40	40 %
2. Few times per week	39	39 %
3. 1-2 times per week	9	9 %
Grand Total	88	87 %

Row Labels	Count of Collaboration	
1. Daily	30	30 %
2. Few times per week	51	50 %

3. 1-2 times per week	11	11 %
Grand Total	92	91 %

Row Labels	Count of Project space	
1. Daily	18	18 %
2. Few times per week	29	29 %
3. 1-2 times per week	18	18 %
Grand Total	65	64 %

Row Labels	Count of Phone booth	
1. Daily	39	39 %
2. Few times per week	27	27 %
3. 1-2 times per week	14	14 %
Grand Total	80	79 %

Row Labels	Count of Innospace	
1. Daily	14	14 %
2. Few times per week	32	32 %
3. 1-2 times per week	24	24 %
Grand Total	70	69 %

Row Labels	Count of Showroom	
1. Daily	1	1 %
2. Few times per week	3	3 %
3. 1-2 times per week	12	12 %
Grand Total	16	16 %

Row Labels	Count of External meetong rooms	
1. Daily	3	3 %
2. Few times per week	12	12 %
3. 1-2 times per week	26	26 %
Grand Total	41	41 %

Row Labels	Count of Internal meeting rooms	
1. Daily	25	25 %
2. Few times per week	40	40 %
3. 1-2 times per week	21	21 %
Grand Total	86	85 %

Row Labels	Count of Ad hoc	
1. Daily	42	42 %
2. Few times per week	30	30 %
3. 1-2 times per week	17	17 %
Grand Total	89	88 %

Row Labels	Count of Gym	
1. Daily	6	6 %
2. Few times per week	37	37 %
3. 1-2 times per week	21	21 %
Grand Total	64	63 %

Row Labels	Count of Cafe area on the office	
wo	66	65 %
2. Few times per week	15	15 %
3. 1-2 times per week	8	8 %
Grand Total	89	88 %

Survey results – Flexible on site working

Current role	Number	Percentage
Project manager	57	11 %
Technical specialist	55	10 %
SW Developer	44	8 %
Continuous service manager	41	8 %
Manager	33	6 %
Solution consultant	33	6 %
Total	535	

Preferred area		
Areas for concentration	330	57 %
Areas for communication	128	22 %
Areas for collaboration	116	20 %
Areas for hanging out	6	1 %
	580	

Row Labels	Count of Open desk Area	
1. Daily	260	49 %
2. Few times per week	107	20 %
3. 1-2 times per week	55	10 %
Grand Total	422	79 %

Row Labels	Count of Cafeteria	
1. Daily	183	34 %
2. Few times per week	97	18 %
3. 1-2 times per week	66	12 %
Grand Total	346	65 %

Row Labels	Count of Collaboration	
1. Daily / Päivittäin	89	17 %
2. Few times per week / Muutaman kerran viikossa	159	30 %
3. 1-2 times per week / 1-2 kertaa viikossa	105	20 %
Grand Total	353	66 %

Row Labels	Count of Project space	
1. Daily	61	11 %
2. Few times per week	104	19 %
3. 1-2 times per week	103	19 %
Grand Total	268	50 %

Row Labels	Count of Phone booth	
1. Daily	155	29 %

2. Few times per week	131	24 %
3. 1-2 times per week	94	18 %
Grand Total	380	71 %

Row Labels	Count of Innospace	
1. Daily	34	6 %
2. Few times per week	66	12 %
3. 1-2 times per week	92	17 %
Grand Total	192	36 %

Row Labels	Count of Showroom	
1. Daily	8	1 %
2. Few times per week	18	3 %
3. 1-2 times per week	26	5 %
Grand Total		

Row Labels	Count of External meetong rooms	
1. Daily	15	3 %
2. Few times per week	31	6 %
3. 1-2 times per week	60	11 %
Grand Total	106	

Row Labels	Count of Internal meeting rooms	
1. Daily	92	17 %
2. Few times per week	170	32 %
3. 1-2 times per week	139	26 %
Grand Total	401	75 %

Row Labels	Count of Ad hoc	
1. Daily	118	22 %
2. Few times per week	142	27 %
3. 1-2 times per week	106	20 %
Grand Total	366	68 %

Row Labels	Count of Gym	
1. Daily	30	6 %
2. Few times per week	111	21 %
3. 1-2 times per week	118	22 %
Grand Total	259	48 %

Row Labels	Count of Cafe area on the office	
1. Daily	341	64 %
2. Few times per week	79	15 %
3. 1-2 times per week	54	10 %
Grand Total	474	89 %

Survey results – Individual work

SW Developer	34	24 %
System analyst	16	12 %
Technical specialist	14	10 %
Solution consultant	9	6 %

SW Architect	9	6 %
Total	139	

Preferred area		
Areas for concentration	122	84 %
Areas for communication	3	2 %
Areas for collaboration	18	12 %
Areas for hanging out	2	1 %
	145	

Row Labels	Count of Open desk Area	
1. Daily	65	47 %
2. Few times per week	19	14 %
3. 1-2 times per week	18	13 %
Grand Total	102	73 %

Row Labels	Count of Cafeteria	
1. Daily	44	32 %
2. Few times per week	25	18 %
3. 1-2 times per week	23	17 %
Grand Total	92	66 %

Row Labels	Count of Collaboration	
1. Daily	7	5 %
2. Few times per week	26	19 %
3. 1-2 times per week	33	24 %
Grand Total	66	47 %

Row Labels	Count of Project space	
1. Daily	9	6 %
2. Few times per week	19	14 %
3. 1-2 times per week	26	19 %
Grand Total	54	39 %

Row Labels	Count of Phone booth	
1. Daily	36	26 %
2. Few times per week	38	27 %
3. 1-2 times per week	25	18 %
Grand Total	99	71 %

Row Labels	Count of Innospace	
1. Daily	12	9 %
2. Few times per week	14	10 %
3. 1-2 times per week	19	14 %
Grand Total	45	32 %

Row Labels	Count of Showroom	
3. 1-2 times per week	3	2 %

Grand Total	3	2 %

Table	Count of External meetong rooms	
1. Daily	3	2 %
2. Few times per week	12	9 %
3. 1-2 times per week	15	11 %
Grand Total		

Row Labels	Count of Internal meeting rooms	
1. Daily	3	2 %
2. Few times per week	30	22 %
3. 1-2 times per week	38	27 %
Grand Total	71	51 %

Row Labels	Count of Ad hoc	
1. Daily	10	7 %
2. Few times per week	22	16 %
3. 1-2 times per week	43	31 %
Grand Total	75	54 %

Row Labels	Count of Gym	
1. Daily	10	7 %
2. Few times per week	24	17 %
3. 1-2 times per week	32	23 %
Grand Total	66	47 %

Row Labels	Count of Cafe area on the office	
1. Daily	90	65 %
2. Few times per week	16	12 %
3. 1-2 times per week	15	11 %
Grand Total	121	87 %